

REMARKS

Claims 17-33 and 35-54 are pending in this application. Claims 17-19, 21, 22, 27, 30, 32, 33, 35, 36, 41-43, 45, 49 have been changed, claim 34 has been cancelled, and claim 54 has been added by this amendment. These amendments have been made to improve the form of the claims and not for reasons of patentability unless so stated below.

Applicant has again noted that the Examiner has not included copies of the Forms 1449 for Paper Nos. 11, 12, 14, and 15 showing the review of those cited references by the Examiner. Applicant respectfully requests copies of the initialed Forms 1449 of Paper Nos. 11, 12, 14, and 15.

The Examiner rejected claims 17-53 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner stated that the "movement generator generating motion of the housing in a direction substantially orthogonal to the flat surface" was not described in the specification. Applicant believes this limitation is disclosed, for example, on page 6, lines 10-17, where it is indicated that the anchor 58 of the electromagnet 50 moves the casing 20, and in Fig. 4, where the anchor 58 is clearly shown to be oriented to move in the direction orthogonal to the flat surface on which the mouse is resting (the drawings are considered part of the specification). However, to expedite prosecution, Applicant has amended the language in claims 17-53 to remove the elements related to the orthogonal direction of housing movement. Applicant therefore respectfully requests that the rejection under 112, first paragraph, be withdrawn.

The Examiner rejected claims 17-23, 25-37, and 39-53 under 35 U.S.C. 102(e) as being anticipated by Rohen. Applicant respectfully traverses. Rohen discloses a mouse having a small tactile feedback area 33 (Figs. 2-4). The feedback to the user produced by this one area is, in one embodiment, a mild AC signal to provide a tingling sensation at the finger of the user, and, in another embodiment, is a vibration that varies in intensity and/or frequency from a voice coil loudspeaker device. In either embodiment, only the small tactile area 33 is moved or vibrated, not the housing of the mouse. In contrast, in claim 17 Applicant recites a movement generator generating motion of the housing, thereby delivering a tactile sensation to said user's palm when said palm is in contact with the housing. This is much different from the Rohen device, which forces a user to always touch one particular area on the mouse (area 33) with a finger; the

advantages of the housing motion aspect of Applicant's invention is stated in the specification on page 6, lines 21-23, where in Applicant's device "[users] do not necessarily have to touch the computer mouse with any specific position of the hand as the whole computer mouse according to the invention is moving." The user can thus contact Applicant's mouse anywhere on the housing (or anywhere on an entire casing portion) and feel tactile sensations, which clearly cannot occur with Rohen's mouse. Claim 17 is therefore believed patentable. Claims 18-29 are dependent from claim 17 and are believed patentable for at least the same reasons and for additional reasons; for example, claim 21 recites a resiliant material enabling the housing motion by storing and releasing energy; claim 22 recites that motion is in the casing portion with respect to the lower portion; and claim 29 recites that a location underneath the palm of the user is impacted with a moving portion of the movement generator, none of which are disclosed or suggested by Rohen.

Claims 30-42 recite a computer mouse including a movement generator generating motion of the housing and delivering a bump sensation to the user's palm, and is believed patentable over Rohen at least for similar reasons as claim 17 and for additional reasons. Claims 43-53 recite a method for providing tactile feedback to a user of a mouse device in which movement of a casing portion of the mouse device, including a top surface of the mouse device, is moved with respect to a bottom portion of the device, which is not disclosed or suggested by Rohen; Rohen only discloses moving a small area 33 on the side of the mouse housing, not a casing portion as recited by Applicant. Claims 44-53 are dependent on claim 43 and believed patentable at least for similar reasons and for additional reasons.

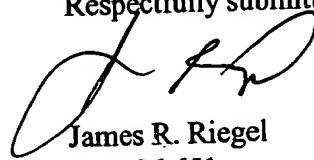
In view of the foregoing, Applicant believes claims 17-23, 25-37, and 39-54 are patentable over Rohen, and respectfully requests that the rejection be withdrawn.

The Examiner rejected claims 24 and 38 under 35 U.S.C. 103(a) as being unpatentable over Rohen in view of Affinito et al. Affinito et al. also do not disclose the features of moving the mouse housing as explained above, so that claims 24 and 38 are believed patentable for reasons similar to their respective parent claims. Applicant respectfully requests that the rejection under 103(a) be withdrawn.

No amendment made herein was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,



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MARKED-UP VERSION OF AMENDMENTS

In the Claims:

17. (amended) A computer mouse device for tracking user input and providing tactile feedback, said mouse device comprising:

a housing designed to move over a separate flat surface, said housing designed to be engaged by a palm of a user's hand when said housing [is in contact with] moves on or rests on said flat surface;

a tracking element provided within said housing that tracks the motion of said housing in x- and y-directions with respect to said flat surface, wherein motion data from said tracking element is transmitted to a host computer for updating the status of a cursor on a graphical display displaying one or more graphical details;

a signal [lines connecting] channel allowing communication between said mouse device and [with] said host computer, wherein said mouse device receives [over] via said signal [lines] channel a sensory feedback signal from said host computer when said cursor displayed on said host computer interacts with one of said graphical details in response to said motion data; and

a movement generator included within and coupled to said housing, said movement generator generating motion of said housing [in a direction substantially orthogonal to said flat surface], thereby delivering a tactile sensation to said user's palm when said palm is in contact with said housing, said movement generator delivering said tactile sensation in response to said sensory feedback signal received over said signal [lines] channel.

18. (amended) A computer mouse device as recited in claim 17, wherein said movement generator is capable of generating vibrations on said housing of varying frequency corresponding to different graphical details on said graphical display.

19. (amended) A computer mouse device as recited in claim [17] 18 wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

20. A computer mouse device as recited in claim 17 wherein said movement generator generates said motion in said entire housing of said computer mouse device.

21. (amended) A computer mouse device as recited in claim [20] 17 further comprising a resilient material, said resilient material enabling said [vibration] motion by storing and releasing energy.

22. (amended) A computer mouse device as recited in claim 17 wherein said housing includes a casing portion and a lower portion, wherein said movement generator generates said motion in said casing portion with respect to said lower portion.

23. A computer mouse device as recited in claim 22 further comprising a resilient material, said resilient material being located within said housing between said casing portion and said lower portion.

24. A computer mouse device as recited in claim 17 wherein said movement generator is an electromagnetic actuator.

25. A computer mouse device as recited in claim 17 wherein at least one of said graphical details is a border of a window.

26. A computer mouse device as recited in claim 17 wherein at least one of said graphical details is an icon.

27. (amended) A computer mouse device as recited in claim 17 wherein said movement of said housing includes a vibration of said housing and wherein different graphical details are coded with different vibration frequencies so that a user can identify said graphical details by vibration frequency.

28. A computer mouse device as recited in claim 17 wherein said movement generator generates motion of said housing by impacting said housing with a moving portion of said movement generator.

29. A computer mouse device as recited in claim 28 wherein said movement generator impacts said housing at a location underneath said palm of said user when said palm contacts said housing.

30. (amended) A computer mouse device for tracking user input and providing tactile feedback, said mouse device comprising:

a housing including a lower portion and an upper portion, said lower portion designed to move over a separate flat surface, said upper portion designed to be engaged by the palm of a user when said lower portion is in contact with said flat surface;

a tracking element provided within said housing for tracking motion of said housing with respect to said flat surface, wherein motion data from said tracking element is transmitted to a host computer for updating the status of a cursor on a graphical display containing one or more graphical details;

a signal [lines connecting] channel allowing communication between said mouse device [with] and said host computer, wherein said mouse device receives [over] via said signal channel [lines] a sensory feedback signal from said host computer when said cursor displayed on said host computer interacts with one of said graphical details in response to said motion data; and

a movement generator included within and coupled to said housing for generating [up-down] motion of said housing with respect to said flat surface, thereby delivering a bump sensation to said user's palm when said palm is in contact with said housing, said movement generator delivering said bump sensation in response to said sensory feedback signal received over said signal [lines] channel.

31. A computer mouse device as recited in claim 30, wherein said movement generator is capable of generating bump sensations of varying magnitude corresponding to different graphical details on said host computer's graphical display.

32. (amended) A computer mouse device as recited in claim 30, wherein said movement generator is capable of generating vibrations on said housing of varying frequency corresponding to different graphical details on said host computer's graphical display.

33. (amended) A computer mouse device as recited in claim 30 wherein said motion of said housing includes a vibration of said housing and wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

Please cancel claim 34 without prejudice.

35. (amended) A computer mouse mouse device as recited in claim [34] 30 further comprising a resilient material, said resilient material enabling said [vibration] bump sensation by storing and releasing energy.

36. (amended) A computer mouse device as recited in claim 30 wherein said movement generator generates said motion in [said] an upper portion of said housing with respect to [said] a lower portion of said housing.

37. A computer mouse device as recited in claim 36 further comprising a resilient element, said resilient element being located within said housing between said upper portion and said lower portion.

38. A computer mouse device as recited in claim 30 wherein said movement generator includes electromagnets.

39. A computer mouse device as recited in claim 30 wherein at least one of said graphical details is a border of a window.

40. A computer mouse device as recited in claim 30 wherein at least one of said graphical details is an icon.

41. (amended) A computer mouse device as recited in claim 30 wherein said motion of said housing includes a vibration of said housing and wherein different graphical details are coded with different vibration frequencies so that a user can identify graphical details by vibration frequency.

42. (amended) A computer mouse device as recited in claim 30 wherein said movement generator generates motion of [said] an upper portion of said housing by impacting said upper portion with a moving portion of said movement generator.

43. (amended) A method for providing tactile feedback to a user of a mouse device in communication with a host computer, the method comprising:

providing motion signals to said host computer from said mouse device, wherein said motion signals represent motion of said mouse device on a flat surface;

receiving on said mouse device a sensory feedback signal from said host computer over a signal [lines] channel, said sensory feedback signal being sent by said host computer when a cursor displayed on said host computer interacts with a graphical detail in response to said motion signals; and

generating a movement of a casing portion of said mouse device with respect to a bottom portion of said mouse device in response to said received sensory feedback signal, [said movement being in a direction substantially orthogonal to said flat surface,] said casing portion including a top surface of said mouse device, said movement delivering a tactile sensation to said user's palm when said palm is in contact with said casing portion.

44. A method as recited in claim 43 wherein a movement generator generates vibrations of varying frequency corresponding to different graphical details on said graphical display.

45. (amended) A method as recited in claim [43] 44 wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

46. A method as recited in claim 43 wherein said movement of said casing portion is generated by a movement generator including electromagnets.

47. A method as recited in claim 43 wherein at least one of said graphical details is a border of a window.

48. A method as recited in claim 43 wherein at least one of said graphical details is an icon.

49. (amended) A method as recited in claim 43 wherein said motion of said casing portion includes a vibration of said casing portion and wherein different graphical details are coded with different vibration frequencies so that a user can identify graphical details by vibration frequency.

50. A method as recited in claim 43 wherein a movement generator generates movement of said casing portion by impacting said casing portion with a moving portion of said movement generator.

51. A method as recited in claim 50 wherein said movement generator impacts said casing portion at a location underneath said palm of said user when said palm contacts said casing portion.

52. A method as recited in claim 43 wherein said movement of said casing portion includes a slanting of said casing portion in one direction with respect to said bottom portion.

53. A method as recited in claim 43 wherein the cursor can be positioned within the borders of one of said graphical details, wherein said cursor is caused to remain within said borders until said cursor is released by said user pressing down said casing portion of said mouse device.

Please add the following claim:

54. (new) A computer mouse device as recited in claim 22 wherein said movement of said casing portion includes a slanting of said casing portion in one direction with respect to said lower portion.